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25944 7590 05/31/2007 OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER WANG, JIN CHENG	
			ART UNIT 2628	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/648,368

**Applicant(s)**

MOMOZONO ET AL.

**Examiner**

Jin-Cheng Wang

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/2/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's submission filed on 4/4/2007 has been entered. Claims 1-11 have been canceled. Claim 12 has been amended. Claim 12 is pending in the application.

### ***Response to Arguments***

Applicant's arguments filed April 4, 2007 have been fully considered but are moot in view of the new ground(s) of rejection of the amended claim 12 set forth in the present Office Action.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

(a) Applicant speculated in the claim 12 the limitation of “a third determination unit” wherein “a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel.”

The claim 12 recites “if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive, shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel” and “a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a

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character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel.”

From applicant’s specification, e.g., paragraph 0044, “when an upper-left pixel or a lower-left pixel of the target pixel is a pixel constituting the character (■) and an upper-right pixel and a lower-right pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 3a or 3b.”

Therefore, the claim 12’s recitation of “a third determination unit” is incorrect in that applicant’s omits an essential component. The third determination unit should determine the following holds true, a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□).

The claim 12’s recitation of “if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive” depends upon the third determination unit. Because the third determination unit omits an essential component, whether the target character pixel can be shifted depends upon the “if” condition set forth in the claim. However, because applicant omits the essential component in the third determination unit, the logic is no longer correct. Simply stated, the above example resembles the following situation, applicant’s specification discloses “if A & B, then C”, however, applicant’s claim language set forth “if A, then C” by omitting “B”. The condition for “C” to happen only depends upon “A” in applicant’s claim recitation, as opposed to “A & B” in the applicant’s specification.

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By the same token, the condition for “shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel” to happen depends upon “if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive” wherein “a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel,” as opposed to “if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive” wherein “a third determination unit that operates only after a negative determination at both the first and second determination units, and determines the following holds true, i.e., a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)”.

Applicant cannot omit the essential element in the third determination unit that provides the basis for the shifting of the target pixel.

(b) Applicant speculated in the claim 12 the limitation “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel”.

From applicant’s specification, e.g., paragraph 0046, “when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16

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determines whether the matching are patterns for detecting right diagonal lines. When an upper-right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b.”

Therefore, applicant’s specification at best discloses “if the determinations of both the first and second determination units are negative, the determination of the third determination unit is negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel”.

(c) Applicant further speculated in the claim 12 the limitation of “fourth determination unit” wherein “a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side.”

The claim 12 recites “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel” and “a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side.”



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From applicant's specification, e.g., paragraph 0046, "when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16 determines whether the matching are patterns for detecting right diagonal lines. When an upper-right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b."

Therefore, the claim 12 recites "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel"

Therefore, the claim 12's recitation of "a fourth determination unit" is incorrect. The fourth determination unit should determines whether the following condition holds true, i.e., a character pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□).

The claim 12's recitation of "shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" depends upon the fourth determination unit. Because the fourth determination unit omits an essential component, whether the target character pixel can be shifted depends upon the "if" condition. However, because applicant omits the essential component in the fourth determination unit, the logic is no longer correct. Simply stated, the above example resembles the following situation, applicant's specification discloses "if A & B,

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then C”, however, applicant’s claim language set forth “if A, then C” by omitting “B”. The condition for “C” to happen only depends upon “A” in applicant’s claim recitation, as opposed to “A & B” in the applicant’s specification.

By the same token, the condition for “shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel” to happen depends upon “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive” wherein “a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side,” as opposed to “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive” wherein “a fourth determination unit that operates only after a negative determination at the first, second and third determination units, and determines if the following holds true, i.e., a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)”. Applicant cannot omit the essential element in the fourth determination unit that provides the basis for the shifting of the target pixel.

In summary, applicant’s claim 12 presented numerous errors that are inconsistent with the description set forth in the applicant’s specification.



***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claim 12:**

Claim 12 applies a computer program as part of a seemingly patentable process, however, claim 12 in reality seeks patent protection for the computer program as evidenced in applicant's specification, paragraph 0038 and Fig. 3. Computer program per se is neither computer components nor statutory process. Thus, claim 12 is non-statutory.

Additionally, since claim 12 includes a 101 judicial exception, claim 12 must be for a practical application of the judicial exception. As is, claim 12 failed to recite either a physical transformation or produces a useful and tangible result. Thus, claim 1 is also non-statutory for this reason.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

(a) Applicant speculated in the claim 12 the limitation of “a third determination unit” wherein “a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel.”

The claim 12 recites “if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive, shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel” and “a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel.”

From applicant's specification, e.g., paragraph 0044, “when an upper-left pixel or a lower-left pixel of the target pixel is a pixel constituting the character (■) and an upper-right pixel and a lower-right pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 3a or 3b.”

Therefore, the claim 12's recitation of “a third determination unit” is incorrect in that applicant's omits an essential component. The third determination unit should determine the following holds true, a character pixel is located at a third position that is adjacent and diagonal

to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□).

The claim 12's recitation of "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" depends upon the third determination unit. Because the third determination unit omits an essential component, whether the target character pixel can be shifted depends upon the "if" condition set forth in the claim. However, because applicant omits the essential component in the third determination unit, the logic is no longer correct. Simply stated, the above example resembles the following situation, applicant's specification discloses "if A & B, then C", however, applicant's claim language set forth "if A, then C" by omitting "B". The condition for "C" to happen only depends upon "A" in applicant's claim recitation, as opposed to "A & B" in the applicant's specification.

By the same token, the condition for "shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" to happen depends upon "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" wherein "a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel," as opposed to "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" wherein "a third determination unit that operates only after a negative determination at both the first and second determination units, and

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determines the following holds true, i.e., a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)”.

Applicant cannot omit the essential element in the third determination unit that provides the basis for the shifting of the target pixel.

(b) Applicant speculated in the claim 12 the limitation “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel”.

From applicant’s specification, e.g., paragraph 0046, “when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16 determines whether the matching are patterns for detecting right diagonal lines. When an upper-right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b.”

Therefore, applicant’s specification at best discloses “if the determinations of both the first and second determination units are negative, the determination of the third determination unit is negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel”.

(c) Applicant further speculated in the claim 12 the limitation of “fourth determination unit” wherein “a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side.”

The claim 12 recites “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel” and “a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side.”

From applicant’s specification, e.g., paragraph 0046, “when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16 determines whether the matching are patterns for detecting right diagonal lines. When an upper-right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b.”

Therefore, the claim 12 recites “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel”

Therefore, the claim 12's recitation of "a fourth determination unit" is incorrect. The fourth determination unit should determine whether the following condition holds true, i.e., a character pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□).

The claim 12's recitation of "shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" depends upon the fourth determination unit. Because the fourth determination unit omits an essential component, whether the target character pixel can be shifted depends upon the "if" condition. However, because applicant omits the essential component in the fourth determination unit, the logic is no longer correct. Simply stated, the above example resembles the following situation, applicant's specification discloses "if A & B, then C", however, applicant's claim language set forth "if A, then C" by omitting "B". The condition for "C" to happen only depends upon "A" in applicant's claim recitation, as opposed to "A & B" in the applicant's specification.

By the same token, the condition for "shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" to happen depends upon "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive" wherein "a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target



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character pixel that is opposite to the one side,” as opposed to “if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive” wherein “a fourth determination unit that operates only after a negative determination at the first, second and third determination units, and determines if the following holds true, i.e., a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)”. Applicant cannot omit the essential element in the fourth determination unit that provides the basis for the shifting of the target pixel.

In summary, applicant’s claim 12 presented numerous errors that are inconsistent with the description set forth in the applicant’s specification.

The following rejection is based on the recitations of the claim 12 as best understood by the Examiner.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Toji et al. U.S. Patent Application Publication 2003/0020729 (hereinafter Toji).

Re Claim 12:

Toji discloses at Fig. 14(a) and Fig. 15 shifting the target character pixel by at least one subpixel to generate a shifted target character pixel when a character pixel is located diagonal to the target character pixel (e.g., the pixel in the third row and the second column in Fig. 14(a) is shifted rightward by one subpixel when a character pixel is located the in upper-right diagonal to the target character pixel). Toji discloses at Fig. 14(a) and Fig. 15 avoiding a shift in the target character pixel before expanding the target character pixel into subpixel font when no character pixel is located diagonal to the target pixel (e.g., the pixel in the first row and third column of Fig. 14(a) is not shifted when no character pixel is located diagonal to the target pixel). Toji discloses at Fig. 14(a) and Fig. 15 that shifting and no shifting are repeated individually for each character pixel of the font data acquired by the data acquiring device (See also Paragraph 0171-0173 of Toji for the data acquiring device).

Moreover, it is noted that applicant's invention creates more aliasing, rather than reduce aliasing. The claim invention creates aliasing, rather than provide anti-aliasing for the reasons given below.

For the example character in Fig. 14(a) of Toji, applicant's claim invention would have shifted the character pixel in the fourth row and second column rightward because there is a character pixel located in the lower right of the target character pixel. This however, increases the aliasing to the character A while Toji successfully reduces aliasing of the character A. Applicant's claim invention is thus inferior to Toji for this reason.

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Toji teaches repeating the analysis individually for each character pixel of the font data acquired by the data acquiring device. Toji discloses no shifting in Fig. 7(a) and shifting in Fig. 7(c) or 7(f). See also Fig. 14(a) and Fig. 15 wherein shifting occurs for a center target pixel in the second row, and no shifting occurs for a center target pixel in the first row, fourth row. No shifting occurs also for the target pixel located in the second position of the fourth row and the fourth position of the fourth row (Fig. 14(a) and 15). Toji discloses in Fig. 25(c) and 25(d) shifting the target pixel rightward a subpixel and no shifting for the target pixel in Fig. 25(c). Toji discloses in Fig. 11(a) shifting the target pixel leftward or rightward by two sub-pixels. Toji also discloses the gradation adjustment for the pixels (See Toji Paragraph 0012-0014)

Toji teaches no shifting in Fig. 7(a) and shifting in Fig. 7(c) or 7(f). See also Fig. 14(a) and Fig. 15 wherein shifting occurs for a center target pixel in the second row leftward or rightward. Toji discloses in Fig. 25(c) and 25(d) shifting the target pixel rightward a subpixel. Toji discloses in Fig. 11(a) shifting the target pixel leftward or rightward by two sub-pixels. Toji also discloses the gradation adjustment for the pixels (See Paragraph 0012-0014).

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcw

*Jin-Cheng Wang*